Amendments to the Specification:

Please replace the paragraph beginning at page 16, line 6, with the following amended paragraph:

In addition, other electrode materials and designs that can be used in accordance with embodiments of the present invention include those electrodes and designs taught in concurrently filed U.S. Patent Application No. 09/938,894 [_____], to Bryning et al., entitled "Manipulation of Analytes Using Electric Fields" and designated attorney docket no. 4727, which is incorporated herein in its entirety by reference.

Please replace the paragraph beginning at page 29, line 13, with the following amended paragraph:

~~Fig. 7~~ Fig. 7a is a side view of closed capillary tube analytical device according to an exemplary embodiment of the present invention. The device includes two bubble-free electrodes 70 spaced apart at opposite ends of a closed capillary tube 72 and provided with electrode leads or connectors. The device illustrates a use of the bubble-free electrodes of the present invention in a capillary environment. The device can be used by supplying various voltages or alternating voltages to the two electrodes, and can separate, move, concentrate, or otherwise manipulate a sample or components of a sample disposed in the capillary. After a sample is loaded into the capillary, as, for instance, by capillary action before the electrodes are placed in or on the capillary ends, the device can then be sealed by inserting or forming one or both of the electrodes in the end or ends of the capillary. Because the electrodes are bubble-free electrodes according to the present

invention, the device can be permanently sealed after the electrodes are placed or formed at the capillary ends. An electrode paste material, electrode plug, or melt-molded electrode material, for example, can be used.

Please replace the paragraph beginning at page 33, line 9, with the following amended paragraph:

Fig. 8b is a side view of a component concentrator that uses an electrophoretic flow profile and component-retaining electrodes disposed transversely with respect to the direction of electroosmotic or electroendoosmotic flow. As shown in Fig. 8b, the electroendoosmotic flow 805 of a flow through channel 801 is depicted. The electroendoosmotic flow 805 is the profile of the effective velocity or the "envelope" of the flow. The electroendoosmotic flow 805 has various vector components as illustrated by vectors 806a-806c, however, unlike the differing vectors on the pressure driven flow depicted in Fig. 8a, the various vectors 806a-806c are equivalent under electroendoosmotic flow conditions as depicted in Fig. 8b. As shown in ~~Fig. 8a~~ Fig. 8b, the vector or flow in the center of the channel 801, represented as vector 806c, is equivalent to the flow at the edges of the channel 801 represented by vectors 806a and 806b, i.e., closer to the walls of the channel-defining tubular member.

Please replace the paragraph beginning at page 33, line 21, with the following amended paragraph:

Electrodes 803 and 804 are placed opposing one another in a direction transverse to the electroendoosmotic flow through the channel 801. If specific biomolecules ~~802~~ 812 are charged and current is applied to electrodes 803 and 804, the field resulting between opposing electrodes 803 and 804 will cause the biomolecules ~~802~~ 812 to be drawn-to, held, and concentrated at least one of the electrodes, electrode 804 in the embodiment shown. Non-charged components 810 will pass through channel 801 while a charged component of interest can accumulate on an appropriate electrode, 803 or 804.

Please replace the paragraph beginning at page 35, line 17, with the following amended paragraph:

Fig. 9 is a top view of an analytical device 69 according to yet another embodiment of the present invention. The device includes a PCR reaction and sample chamber 77, seals 78, 80, and 824, a reagent container 79, a pressure generator 81, a low voltage conduit 82, a channel for electrophoretic separation 83, buffer containers 84, 86, and 87, low voltage conduits 85, 813, 814, 816, 818, 820, and 822, and a high voltage conduit 85', ~~and buffer containers 86 and 87~~.

Please replace the paragraph beginning at page 36, line 1, with the following amended paragraph:

The pressure generator 81 generates pressure, as for example, by including at least one gas-generating electrode 850, 852 and conditions that enable gas generation. An exemplary system would be a gas-generating palladium electrode that has not been pre-charged according to the present invention, and run under conditions as ~~a~~ an anode, generating oxygen gas. Other gas-generating electrode systems could be employed, including platinum electrodes, other gas-generating metals, other conducting gas-generating materials, semiconductors, and the like. The container portion of pressure generator 81 can also include appropriate buffer or other material needed to cause gas-generation, such as an ionic solution. Other generated gases can similarly be used to cause sample injection, such as hydrogen gas, chlorine gas, carbon dioxide gas, and the like.

Please replace the paragraph beginning at page 48, line 2, with the following amended paragraph:

Referring now to Fig. 19, a modified version of the arrangement of Fig. 17 was used. Here, electrode 102 of Fig. 17 was replaced with electrode 102'. Electrode 102' was a flat sheet of palladium having been placed in the tap water at an immersion depth of about 11 mm, and further having a width of about 22mm. The capacity to absorb hydrogen being a surface phenomenon, very thin gage or material was used. The edges of electrode 102' were coated with an insulating border 110 made of epoxy in order to minimize field concentrations at the edges of the electrode.

An electrical system 108' was used to supply a DC voltage of about 50 V to electrodes 102' and 104 for electrolysis and the current noted was about 13 mA.